

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	4	("5834871" "5681396" "5762084" "20020108631").PN.	US-PGPUB; USPAT	OR	ON	2009/10/14 07:32
S3	2	(Ferrell-Gary Schipper-John Ratra-Jagjit).IN.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:00
S4	954	(Ferrell Schipper Ratra).IN.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:01
S5	1	(Ferrell Schipper Ratra).IN. and "cavity density"	US-PGPUB; USPAT	OR	ON	2009/10/14 08:01
S6	21	(Ferrell Schipper Ratra).IN. and (transducer megasonic sonic acoustic ultrasonic).dm.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:02
S7	77	(Ferrell Schipper Ratra).IN. and (transducer megasonic sonic acoustic ultrasonic)	US-PGPUB; USPAT	OR	ON	2009/10/14 08:17
S8	56	S7 not S6	US-PGPUB; USPAT	OR	ON	2009/10/14 08:18
S9	1	"6944097".PN.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:24
S10	1733	("LAM Research").AS.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:34
S11	1871	("LAM Research" LAM "SEZ AG" SEZ).AS.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:35
S12	3	("LAM Research" LAM "SEZ AG" SEZ).AS. and ("cavity density" "cavitation density")	US-PGPUB; USPAT	OR	ON	2009/10/14 08:35
S13	81	("LAM Research" LAM "SEZ AG" SEZ).AS. and (transducer megasonic sonic acoustic ultrasonic).dm.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:36
S14	1	"5762084".PN.	US-PGPUB; USPAT	OR	ON	2009/10/14 08:53
S15	45	(sonic megasonic ultrasonic acoustic transducer) and ("cavity density" "cavitation density") and @PY<"2003"	US-PGPUB; USPAT	OR	ON	2009/10/14 09:18
S16	88	(sonic megasonic ultrasonic acoustic transducer) and ("cavity density" "cavitation density")	US-PGPUB; USPAT	OR	ON	2009/10/14 09:45
S17	43	S16 not S15	US-PGPUB; USPAT	OR	ON	2009/10/14 09:45
S18	1	"7104268".PN.	US-PGPUB; USPAT	OR	ON	2009/10/14 09:46
S19	2	("7004016" "6016821").PN.	US-PGPUB; USPAT	OR	ON	2009/10/14 09:53
S20	938	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and @PY<"2003"	US-PGPUB; USPAT	OR	ON	2009/10/14 09:55

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S21	893	S20 not S15	US-PGPUB; USPAT	OR	ON	2009/10/14 09:56
S22	56	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and @PY< "2003" and (test\$4 with (liquid solution))	US-PGPUB; USPAT	OR	ON	2009/10/14 10:02
S23	163	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and (test\$4 with (liquid solution))	US-PGPUB; USPAT	OR	ON	2009/10/14 10:24
S24	107	S23 not S22	US-PGPUB; USPAT	OR	ON	2009/10/14 10:24
S25	1231	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and ((sonic megasonic ultrasonic acoustic transducer) with test\$4)	US-PGPUB; USPAT	OR	ON	2009/10/14 10:34
S26	568	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and ((sonic megasonic ultrasonic acoustic transducer) with test\$4) and @PY< "2003"	US-PGPUB; USPAT	OR	ON	2009/10/14 10:34
S27	2	(sonic megasonic ultrasonic acoustic transducer) and ("cavity density" "cavitation density") and @PY< "2004"	JPO	OR	ON	2009/10/14 10:35
S28	19	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and @PY< "2004"	JPO	OR	ON	2009/10/14 10:38
S29	17	S28 not S27	JPO	OR	ON	2009/10/14 10:39
S30	7	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and @PY< "2004"	EPO	OR	ON	2009/10/14 10:50
S31	56	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and @PY< "2004"	DERWENT	OR	ON	2009/10/14 10:53
S32	179	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and @PY< "2004"	USOCR; FPFS; DERWENT; IBM_TDB	OR	ON	2009/10/14 11:10
S33	568	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and ((sonic megasonic ultrasonic acoustic transducer) with test\$4) and @PY< "2003"	US-PGPUB; USPAT	OR	ON	2009/10/14 12:30
S34	11771	(sonic megasonic ultrasonic acoustic transducer) and ((energy acoustic sonic power) with density) and @PY< "2003"	US-PGPUB; USPAT	OR	ON	2009/10/14 12:33
S35	506	(sonic megasonic ultrasonic acoustic transducer) and ((energy acoustic sonic power) with density) and @PY< "2003" and (test with (liquid solution))	US-PGPUB; USPAT	OR	ON	2009/10/14 12:34

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S36	127	(sonic megasonic ultrasonic acoustic transducer) and ((energy acoustic sonic power) with density) and @PY< "2003" and "134".clas.	US-PGPUB; USPAT	OR	ON	2009/10/14 12:34
S37	67	(sonic megasonic ultrasonic acoustic transducer) and ((energy acoustic sonic power) with density) and @PY< "2003" and ("test liquid" "test solution")	US-PGPUB; USPAT	OR	ON	2009/10/14 12:47
S38	225	(sonic megasonic ultrasonic acoustic transducer) and ((energy acoustic sonic power) with density) and ("test liquid" "test solution")	US-PGPUB; USPAT	OR	ON	2009/10/14 12:57
S39	158	S38 not S37	US-PGPUB; USPAT	OR	ON	2009/10/14 12:57
S40	1338	(sonic megasonic ultrasonic acoustic transducer) and @PY< "2003" and ("test liquid" "test solution")	US-PGPUB; USPAT	OR	ON	2009/10/14 12:59
S41	121	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ("test liquid" "test solution")	US-PGPUB; USPAT	OR	ON	2009/10/14 13:00
S42	110	S41 not S37	US-PGPUB; USPAT	OR	ON	2009/10/14 13:00
S43	36	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ((sonic megasonic ultrasonic acoustic transducer) with adjust\$4) same test\$4)	US-PGPUB; USPAT	OR	ON	2009/10/14 13:20
S44	3	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ((sonic megasonic ultrasonic acoustic transducer) with optimiz\$4) same test\$4)	US-PGPUB; USPAT	OR	ON	2009/10/14 13:27
S45	2	("2002/0142617").URPN.	USPAT	OR	ON	2009/10/14 13:28
S46	58	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ((sonic megasonic ultrasonic acoustic transducer) with (test\$4 with (bath tank)))	US-PGPUB; USPAT	OR	ON	2009/10/14 13:30
S47	3	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ((sonic megasonic ultrasonic acoustic transducer) with "test tank")	US-PGPUB; USPAT	OR	ON	2009/10/14 14:02
S48	0	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ((sonic megasonic ultrasonic acoustic transducer) with "test bath")	US-PGPUB; USPAT	OR	ON	2009/10/14 14:02
S49	38	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY< "2003" and ((sonic megasonic ultrasonic acoustic transducer) with immers\$4 with test\$4)	US-PGPUB; USPAT	OR	ON	2009/10/14 14:04

## EAST Search History (Prior Art)

S50	23	(US-20060290235-\$ or US-20050254345-\$ or US-20020195120-\$ or US-20040134514-\$ or US-20020142617-\$).did. or (US-6036785-\$ or US-5247467-\$ or US-6944097-\$ or US-6016821-\$ or US-6172444-\$ or US-4736130-\$ or US-5834871-\$ or US-7104268-\$ or US-7004016-\$ or US-6395096-\$ or US-5201958-\$ or US-5883153-\$ or US-4624685-\$ or US-6368414-\$ or US-3638087-\$ or US-5135775-\$).did. or (JP-02076228-\$).did. or (WO-0205465-\$).did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:19
S51	6	((US-20060290235-\$ or US-20050254345-\$ or US-20020195120-\$ or US-20040134514-\$ or US-20020142617-\$).did. or (US-6036785-\$ or US-5247467-\$ or US-6944097-\$ or US-6016821-\$ or US-6172444-\$ or US-4736130-\$ or US-5834871-\$ or US-7104268-\$ or US-7004016-\$ or US-6395096-\$ or US-5201958-\$ or US-5883153-\$ or US-4624685-\$ or US-6368414-\$ or US-3638087-\$ or US-5135775-\$).did. or (JP-02076228-\$).did. or (WO-0205465-\$).did.) and tanks!	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:20
S52	5	((US-20060290235-\$ or US-20050254345-\$ or US-20020195120-\$ or US-20040134514-\$ or US-20020142617-\$).did. or (US-6036785-\$ or US-5247467-\$ or US-6944097-\$ or US-6016821-\$ or US-6172444-\$ or US-4736130-\$ or US-5834871-\$ or US-7104268-\$ or US-7004016-\$ or US-6395096-\$ or US-5201958-\$ or US-5883153-\$ or US-4624685-\$ or US-6368414-\$ or US-3638087-\$ or US-5135775-\$).did. or (JP-02076228-\$).did. or (WO-0205465-\$).did.) and tanks! and density	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:21
S53	1	S51 not S52	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:21
S54	18	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and @PY<"2003" and ((sonic megasonic ultrasonic acoustic transducer) with withdraw\$4 with (tank bath))	US-PGPUB; USPAT	OR	ON	2009/10/14 14:34
S55	2	"5834871".PN.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:44

## EAST Search History (Prior Art)

S56	3350	(134/1 134/1.3).ccls.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:47
S57	1528	(134/1 134/1.3).ccls. and (sonic megasonic ultrasonic acoustic transducer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:47
S58	0	(134/1 134/1.3).ccls. and (sonic megasonic ultrasonic acoustic transducer) and ((transducer generator) with immers\$4 with test\$4) and @PY<"2004"	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:48
S59	0	(134/1 134/1.3).ccls. and (sonic megasonic ultrasonic acoustic transducer) and ((transducer generator) with immers\$5 with test\$4) and @PY<"2004"	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:48
S60	16	(134/1 134/1.3).ccls. and (sonic megasonic ultrasonic acoustic transducer) and ((transducer generator) with test\$4) and @PY<"2004"	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:48
S61	12	(134/1 134/1.3).ccls. and (sonic megasonic ultrasonic acoustic transducer) and ((transducer generator) with different with (tank bath)) and @PY<"2004"	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 14:58
S63	48	(134/1 134/1.3).ccls. and (sonic megasonic ultrasonic acoustic transducer) and ((transducer generator) with (optimiz\$4 adjust\$4)) and @PY<"2004"	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 15:07
S64	2	"5834871".PN.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 15:14
S65	1	"5834871".PN.	US-PGPUB; USPAT	OR	ON	2009/10/14 15:37
S66	9	((US-20060290235-\$ or US-20050254345-\$ or US-20020195120-\$ or US-20040134514-\$ or US-20020142617-\$).did. or (US-6036785-\$ or US-5247467-\$ or US-6944097-\$ or US-6016821-\$ or US-6172444-\$ or US-4736130-\$ or US-5834871-\$ or US-7104268-\$ or US-7004016-\$ or US-6395096-\$ or US-5201958-\$ or US-5883153-\$ or US-4624685-\$ or US-6368414-\$ or US-3638087-\$ or US-5135775-\$).did. or (JP-02076228-\$).did. or (WO-0205465-\$). did.) and assembly	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2009/10/14 15:41
S68	276	(73/1.82 134/1.83).ccls.	US-PGPUB; USPAT	OR	ON	2009/10/14 15:51
S69	34760	(sonic megasonic ultrasonic acoustic transducer) and "73".clas.	US-PGPUB; USPAT	OR	ON	2009/10/14 16:30

### EAST Search History (Prior Art)

S70	713	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and "73".clas.	US-PGPUB; USPAT	OR	ON	2009/10/14 16:31
S71	709	S70 not S68	US-PGPUB; USPAT	OR	ON	2009/10/14 16:31
S72	15	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and "73".clas. and ((cavitation cavity) with density)	US-PGPUB; USPAT	OR	ON	2009/10/14 16:32
S73	3	("2006/0061225").URPN.	USPAT	OR	ON	2009/10/14 16:52
S74	1	("6719449").PN.	USPAT	OR	ON	2009/10/14 17:00
S75	61	((sonic megasonic ultrasonic acoustic transducer) with clean\$4) and "73".clas. and ((power energy) with density)	US-PGPUB; USPAT	OR	ON	2009/10/14 17:04
S76	48	S75 not S72	US-PGPUB; USPAT	OR	ON	2009/10/14 17:04
S77	1	"6016821".PN.	US-PGPUB; USPAT	OR	ON	2009/10/22 10:07
S83	2	(sonic megasonic ultrasonic acoustic transducer) and (((cavity cavitation) with density) with (optimiz\$4 adjust\$4 chang\$4 controll\$4))	JPO	OR	ON	2009/10/22 12:02
S84	5	(sonic megasonic ultrasonic acoustic transducer) and (((cavity cavitation) with density) and (optimiz\$4 adjust\$4 chang\$4 controll\$4))	JPO	OR	ON	2009/10/22 12:02

### EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S78	1304	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density)	USPAT; UPAD	OR	ON	2009/10/22 09:20
S79	221	(sonic megasonic ultrasonic acoustic transducer) and ((cavity cavitation) with density) and (servo RF)	USPAT; UPAD	OR	ON	2009/10/22 09:20
S80	311	(sonic megasonic ultrasonic acoustic transducer) and (((cavity cavitation) with density) and (servo RF radio frequency))	USPAT; UPAD	OR	ON	2009/10/22 09:20
S81	162	(sonic megasonic ultrasonic acoustic transducer) and (((cavity cavitation) with density) with (optimiz\$4 adjust\$4 chang\$4 controll\$4))	USPAT; UPAD	OR	ON	2009/10/22 10:31
S82	107	S81 not S80	USPAT; UPAD	OR	ON	2009/10/22 10:31

### EAST Search History (I nterference)

S85	15	(sonic megasonic ultrasonic acoustic transducer) and (((cavity cavitation) with density) same (test\$4)) and (servo RF radio radiofrequency)	USPAT; UPAD	OR	ON	2009/10/22 12:01
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